St. Bartholomew's Hospital Journal.

VOL. X.—No. 1.] OCTOBER, 1902. [PRICE SIXPENCE.

NOTICE.

All Communications, Articles, Letters, Notices, or Books for review should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, *St. Bartholomew's Hospital, Smithfield, E.C.*

The Annual Subscription to the Journal is 5s., including postage. Subscriptions should be sent to the MANAGER, W. E. SARGANT, M.R.C.S., *at the Hospital.*

All communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. BOOTY & SON, *Advertising Agents, 30, Holborn, E.C.*

A Cover for binding (black cloth boards with lettering and King Henry VIII Gateway in gilt) can be obtained (price 1s. post free) from MESSRS. ADLARD AND SON, *Bartholomew Close.* MESSRS. ADLARD *have arranged to do the binding, with cut and sprinkled edges, at a cost of 1s. 6d., or carriage paid 2s. 3d.—cover included.*

St. Bartholomew's Hospital Journal,

OCTOBER, 1902.

"Æquam memento rebus in arduis
Servare mentem."—*Horace,* Book ii, Ode iii.

The Elizabethan Revival of Surgery.

By D'ARCY POWER, F.R.C.S.Eng.

A SHORT account of the progress of surgery in London is the easiest way to understand the great revival which took place in this branch of medicine during the reign of Elizabeth, a revival which converted surgery from a business into a profession, and was yet so temporary that it left but two surgeons to carry on its traditions through the seventeenth century.

Two surgical guilds had existed in London from the earliest times recorded in the annals of the City: a civil body—the Guild of Barbers; and a fellowship recruited from the military surgeons—the Fraternity of Surgeons. The Barbers' Guild contained two groups of members: the Barbers proper, who also let blood and drew teeth; and the Barbers exercising the faculty of surgery. The Barbers, being stay-at-home people who attended the City magnates when they were ill, soon became a numerous body, of sufficient importance to be incorporated as the Barbers' Company in the year 1462, whilst the Fellowship of Surgeons remained few in number; and though they had great interest with the king and the nobles, they only used it intermittingly, for many of the members were often away from London.

Foremost amongst this small body of men was Thomas Morstede, surgeon to Henry IV, Henry V, and Henry VI, who served as the king's surgeon at Agincourt in 1415. Morstede had a long and prosperous career, and was buried in the church of St. Olave Upwell in the Jewry, in 1450, leaving to "Roger Brynard, my apprentice, ten marks sterling (£6 13*s.* 4*d.*), meum librum Anglicanum ligatum cum duabus latitudinibus, omnia instrumenta mea Chirurgie, cum omnibus suis pertinentibus, meum cornu argento ornatum et meum magnum pyxidem argenti. (My liber Anglicus fastened with two straps, all my surgical instruments and appliances, my drinking-horn mounted in silver, and my large silver plaster case.)"

If we except John of Arderne—and after all he was only a tradesman—we owe to Morstede the first serious attempt to make surgery a profession in London, for he took a leading part in the formation of a conjoint faculty of medicine and surgery, which was nearly five hundred years in advance of its time. The scheme of the faculty is preserved in a petition to the Mayor and Aldermen, dated 15th May, 1423. The petition prays that all physicians and surgeons practising in London may be considered as a single body of men governed by a Rector of Medicine with the help of two Surveyors of the Faculty of Physic, and two Masters of the Craft of Surgery. There was to be a common place of meeting, consisting of three separate houses at the least: one fitted with desks for examinations and disputations in philosophy and medicine, as well as for the delivery of lectures; the second house for the use of the physicians; and the third for the convenience of the surgeons. The Rector of Medicine, when he was in London, was to act as president and ruler at the meetings in either house; but if he were absent each faculty was to act as a separate body, the physicians by themselves, and the surgeons by themselves.

The rector, the two Surveyors of Physic, and the two Masters of Surgery were to be re-elected yearly, and were then to be presented to the Mayor and Aldermen to be sworn to the due performance of their duties. The Rector of Medicine was to be a Doctor of Physic and a Master of Arts and Philosophy, or at the least a Bachelor of Physic of long standing. But if no such person could be found the faculty of medicine was to be governed by the two surveyors only, and in like manner the surgeons by their two masters. No one was to be chosen rector, a Surveyor of Physic, or a Master of Surgery unless he had been born within the realm of England, and an effort was to be made to choose for each office the wisest, ablest, and most discreet persons of mature age.

No surgeon was to be allowed to practise in London unless he had been examined by the rector, the two Masters of Surgery, and the majority of the craft, after which he was to be licensed by the Mayor and Aldermen, under penalty of 100 shillings fine.

Every surgeon called upon to treat a case which seemed likely to end in death or permanent disablement was obliged to call into consultation the Rector of Medicine or one of the Masters of Surgery within three days of his first attendance, and a like course

was to be taken by every surgeon before he performed any serious operation. This regulation was made in the interests of the surgeon as well as of the patient, for it is expressly laid down that the rector, surveyors, and masters shall be always ready to attend the consultations without any fee, under pain of twenty shillings. But the Rector of Medicine is to give no opinion in a surgical case without the consent of the Masters of Surgery.

A surgeon duly convicted on credible evidence of malpraxis or of infamous professional behaviour was to be brought before the Mayor, who should punish him with fine, imprisonment, or "puttynge him out from alle practice in chirurgery for a tyme or for evermore after the quantite and qualite of his trespass."

A patient needing a surgeon, who had fallen into such poverty that he was unable to pay a fee, was to appeal to the rector and the Masters of Surgery, who would assign him a good practitioner, "busily to take heed of him without expence."

The rector, the two Surveyors of Physic, and the two Masters of Surgery, associating with themselves two apothecaries, were to search the shops of suspected apothecaries for adulterated drugs. If the drugs were found impure or rotten they were thrown into the street to be trampled underfoot, and the apothecary was haled before the Mayor. This curious right of search was afterwards given to the Royal College of Physicians of London, and was an established custom rigorously carried out as late as 1830, when the four censors of the Royal College of Physicians visited not only the apothecaries' shops, but the warehouses of the wholesale druggists and the vendors of patent medicines.

The petition of the physicians and surgeons was duly granted on 28th May, 1423. Master Gilbert Kymer was sworn before the Mayor and Aldermen as rector of the Faculty of Medicine, with Thomas Morstede and John Harwe, the king's surgeons, as the Masters of Surgery. But it was not until 27th September, 1423, that Master John Sumbreshede and Master Thomas Southwell were presented and sworn as supervisors of physic, Dr. Gilbert Kymer being again appointed Rector of Medicine on that day.

Dr. Gilbert Kymer was educated at Oxford in Durham College, whose site is now occupied by Trinity College. He was a Master of Arts, a Bachelor of Law, and a Doctor of Physic before 1420. He acted as a Proctor of the University in 1412–13, being at that time Principal of Hart Hall. He was presented to the living of Lutterworth in Leicestershire whilst he was still a layman. He was Dean of Wimborne Minster and Treasurer of Salisbury Cathedral in 1427, yet he was not ordained a sub-deacon until 28th February, 1428, and in 1434 he was presented to St. Martin's, Vintry. He was Chancellor of the University of Oxford from 1431 to 1433, and again from 1446 to 1453, and in that capacity he was constantly begging for money and materials to complete the building known to us as the Divinity School. Some of his begging letters are very amusing as instances of the shifts to which the University was put to obtain money; thus there is one addressed to the Master of St. Thomas's Hospital in London, in which the University, by the hand of Dr. Kymer, "confidently begs that you will intercede for us with the wealthy citizens of London that they may assist us in building the new schools, and that you will advise our Chancellor how to cast his net on the right side of the ship when he applies to them for assistance."

For a long time Dr. Kymer held the office of physician to the household of Humphry, Duke of Gloucester, uncle of Henry VI, and from 1439 to 1446 Duke Humphry, presumably at the instigation of his physician, made gifts of books to the University. These gifts were afterwards increased by similar gifts from the same library, obtained by the good offices of Master John Sumbreshede, or Somerset, who was also the Duke's physician, and one of the Surveyors of Medicine. These books, with a few which had belonged to Bishop Thomas Cobham of Worcester, formed the nucleus of the first University library which was of sufficient importance to require a local habitation. The library increased so rapidly that a keeper was appointed in 1513, but it was sold and destroyed by the King's Commissioners in 1550. For thirteen years the library lay desolate, until it was at length refounded by Thomas Bodley. It may, therefore, be said fairly enough that to Dr. Kymer belongs the honour of founding the first public library in Oxford, and the profession of surgery in London. He became Dean of Salisbury in 1449, but continued to practise medicine, for he was summoned to Windsor in June, 1455, to attend Henry VI during the fit of imbecility which attacked him soon after the first battle of St. Albans. This is the last event in the life of Dr. Kymer which has been traced. He died in 1463.

So long as the coalition of the physicians and surgeons of London lasted, it was formidable to the Guild of Barbers, for the College chose to exercise its penal powers on the Barbers who practised surgery, alleging that they were ignorant and unauthorised practitioners. The Barbers became alarmed, and realising their danger obtained in 1425 a confirmation of the power to practise surgery which had been granted them in 1415 during the mayoralty of Thomas Fauconer, "notwithstanding the false accusation of the Rector and Overseers of the Physicians and the Masters of Surgery."

We have no means of knowing how long the conjoint faculty of medicine and surgery lasted in London. The City records contain no notice of the swearing-in of a Rector of Medicine after September 27th, 1424, nor is there any other indication of the continued existence of a conjoint college after 1425. Dr. Kymer was transferred to the west of England in 1428, and Morstede probably took part in the more active military operations in France when the Earl of Salisbury invested Orleans. The guiding hands of Kymer and Morstede being thus removed, the physicians and surgeons may have ceased to work harmoniously, and the partnership was dissolved, not to be again renewed until 1883, when the Royal College of Physicians of London agreed to act with the Royal College of Surgeons of England, and it became compulsory for every student to be examined in each of the main branches of his profession before he was allowed to practise either medicine, surgery, or midwifery.

The two bodies of physicians and surgeons seem to have gone each their own way after the separation. Little is known about the physicians from 1427 until they were incorporated in 1518 by letters patent of Henry VIII as the President and College of Physicians of London, at the solicitation of Thomas Linacre, and on the recommendation of Cardinal Wolsey. The surgeons steadily pursued their plan of consolidating the craft, and in 1435 they appear as an established body with a code of laws for the government of their society. They consisted at this time of seventeen persons, of whom Thomas Morstede is mentioned last, whilst Thomas Bradwardine, his old companion in arms at Agincourt, is first on the list. The ordinances still exist at the Barbers' Hall as a little quarto book written on vellum. They enact that every member was to help his fellow so far as in him lay, and it was most strictly ordained that none should filch another's patient. The members of the guild had authority to take apprentices, who were to be made free of the fellowship after serving their indentures for six years; or if any apprentice proved unsatisfactory he was allowed a second term of six years, when "if he be not found in these twelve years well adapted in the manner aforesaid, he is never to be chosen a master surgeon."

The guild received a charter of incorporation in 1462, and in 1492 it obtained a grant of arms. At this time, too, it was living peaceably with the Barbers' Company, for in 1493 the two bodies entered into a Composition which is dated May 12th, and is signed by representatives of each society. The Composition recognised the independence of the two fellowships of "surgeons enfranchised within the City of London," and of "barber-surgeons and surgeons barbers enfranchised in the said City." It was agreed that neither body should admit any one, except a regular apprentice, to practise surgery without the consent and knowledge of the other; and to ensure this being carried into effect every stranger seeking a licence to practise in London was to be presented to the Mayor by the four Wardens of the two guilds. Dangerous and doubtful cases were to be brought under the notice of the four Wardens, instead of, as heretofore, coming only under the observation of the two Wardens. The friendly feeling still remained in 1513, when the Surgeons' Guild applied to Parliament to be "discharged of constableship, watch, and all manner of office bearing any armour, and also of all inquests and juries within the City of London;" and the guild prays that this exemption may extend to all barber-surgeons admitted and approved to exercise the mystery of surgery. We hear no more of the Guild of Surgeons until 1540, when they were formally united with their old competitors and more numerous rivals, the Incorporated Barbers, to form the United Company of Barbers and Surgeons, an alliance which continued until 1745, when the two bodies were separated, the Surgeons to form the Surgeons' Company, from which is descended the present Royal College of Surgeons of England, whilst the Barbers still exist as the Barbers' Company in Monkwell Street.

The Barbers had much ado to vindicate their privileges in the early part of the sixteenth century, for the country swarmed with quacks and unlicensed practitioners, who owed allegiance neither to Surgeons' Guild nor Barbers' Company. The prestige of the Company, too, received a severe blow in 1511, when an Act of Parliament transferred the approbation and licensing of surgeons in London to

the Bishop of London and the Dean of St. Paul's, and to the bishops and their vicars-general in various parts of the country. But the Act speedily became unpopular, and was amended by another still more retrograde, for it made it lawful "to any person being the King's subject, having knowledge and experience of herbs—by speculation or practice—to minister in and to any outward sore or wound according to their cunning." This Act remained in force until 1540, when the United Company of Barbers and Surgeons was called into existence, and there can be but little doubt that its effect was to flood the country with quacks. By so doing it acted most injuriously on the practice of surgery, for it led the Barbers' Company to lower the standard of knowledge demanded of candidates for its licence, and in some cases quacks themselves were allowed to buy the licence of the Company on very easy terms as regards their professional knowledge.

From very early times, too, in England the surgeons had felt it a grievance that they were not allowed to take complete charge of their patients. They were looked upon merely as craftsmen, able indeed to wield the knife and saw, but wholly incapable of ordering medicine or regulating the diet of those upon whom they had operated. A physician had to be called on every occasion if more than a trifling change was required in the regimen or medicine, and the surgeon was thus kept in a wholly subordinate position. The better class of surgeons felt this to be an intolerable hardship, and next to the due regulation of unlicensed practitioners they devoted themselves most actively to promote the unity of medicine and surgery. But the power of the physicians was too great, and instead of being able to free themselves the surgeons were soon in a worse plight than before. In June, 1632, the College of Physicians procured an Order in Council with a clause to the effect that "no chirurgeon doe either dismember, trephan the head, open the chest or belly, cut for the stone, or do any great operation with his hand upon the body of any person, but in the presence of a learned physician, one or more of the College, or of His Majesty's physicians."

The Order was rescinded in 1635, but it was not until after the year 1800 that a hospital surgeon was allowed complete control of his cases.

Surgery was thus a mere trade in London, but throughout the reign of Elizabeth a determined attempt was made to elevate it into a profession by a band of men to whom we must ever be grateful, and to whose work I wish to direct your attention more particularly this evening. Some of the members of this band lived in London, others in the provinces. The Elizabethan revival of surgery, therefore, is truly English, and not a revival in London like that inaugurated by Kymer and Morstede a hundred years before.

The best known members of the Elizabethan band of surgeons were Thomas Gale, William Clowes, John Halle, John Read, and John Banester. Gale and Clowes were well known to their contemporaries, for they held high office in the United Company of Barbers and Surgeons. Halle practised in Kent, and Read lived at Gloucester, whilst Banester was first at Nottingham and afterwards in London. All, with the exception of Read, who married John Banester's daughter Cicely, had seen service either in the army or navy. They were thus bound together by the ties of good fellowship, and their service abroad had opened their eyes to the degraded state of surgery in England. It is difficult to trace the beginning of the revival, but it appears to have begun with Richard Ferris, Serjeant-Surgeon to Queen Elizabeth, who wrote nothing, but exercised a powerful influence for good over his fellow-surgeons. The methods of reform adopted at first were rough, and the reformers rarely measured the terms of their abuse; but their methods were suited to the times, and it must be remembered that they had often to deal with the very lowest of the population.

Thomas Gale was the senior in point of years. He was born in 1507, and died in 1587. He was apprenticed to John Field and to Richard Ferris, Serjeant-Surgeon to Queen Elizabeth, from whom he seems to have learnt his zeal for the profession. Gale practised as a young man in London, then he served at Montreuil, in 1544, in the army of Henry VIII. He was at the battle of St. Quentin with Philip II of Spain in 1557, when Ambroise Paré in the French army was dressing the wounds made by the English. Guise took Calais in the following year, and the war being ended, Gale returned to London, and was Master of the United Company of Barbers and Surgeons in 1561. The only record of his mastership is that there was a great shooting match of the Company for a supper at the Hall, and Master Gale and his side won the supper, and they had six drums playing and a flute, as Master Machyn tells us in his diary. Gale seems to have been a straightforward surgeon, who tried to advance his art in a threefold manner: (1) by eliminating quacks; (2) by enforcing a higher standard of education; (3) by protecting surgery against the encroachments of the physicians.

Gale's first picture of the degraded state of surgery due to the abundance of quacks is drawn at Montreuil. He says, "I remember when I was in the wars at Muttrell in the time of the most famous prince King Henry the VIII, there was a great rabblement there that took upon them to be chirurgions; some were sow-gelders, some were horse-gelders, with tinkers and cobblers. This noble sect did such great cures that they got themselves a perpetual name, for like as Thessalus' sect were called Thessalians, so was this noble rabble for their notorious cures called dog-leeches, for in two dressings they did commonly make their cures whole and sound for ever, so that they neither felt heat nor cold, nor yet no manner of pain after: but when the Duke of Norfolk, who was then General, understood how the people did die, and that of small wounds, he sent for me and certain other chirurgions, commanding us to make search how these men came to their death, whether it was by the grievousness of their wounds or by lack of knowledge of the chirurgions; and we, according to our commandment, made search throughout all the camp, and found many of the same good fellows which took upon them the names of chirurgions, not only the names, but wages also. We, asking of them whether they were chirurgions or no, they said they were. We demanded with whom they were brought up; and they, with shameless faces, would answer either with one cunning man or another which was dead. Then we demanded of them what chirurgery stuff they had to cure men withal; and they would show us a pot or a box which they had in a budget, wherein was such trumpery as they did use to grease horses' heels withal, and laid upon scabbed horses' backs, with nervall and such like. And others that were cobblers and tinkers, they used shoemaker's wax with the rust of old pans, and made therewithal a noble salve, as they did term it. But in the end this noble rabble was committed to the Marshalsea, and threatened by the Duke's grace to be hanged for their worthy deeds, except they would declare the truth what they were and of what occupations, and in the end they did confess as I have declared to you before. Whereupon the Duke's grace gave commandment that they should avoid the camp in pain of death, and if at any time they came within the camp afterward they should immediately be hanged as murderers, his Grace calling them by the name of dog-leeches, commanding his captains that they should entertain no more such."

Matters, however, were but little better more than twenty years later, for he says, "In the year 1562 I did see in the two hospitals of London called St. Thomas's Hospital and St. Bartholomew's Hospital to the number of 300 and odd poor people that were diseased of sore legs, sore arms, feet, and hands, with other parts of the body so sore infected that a hundred and twenty of them could never be recovered without loss of a leg or an arm, a foot or a hand, fingers or toes, or else their limbs crooked, so that they were either maimed or else undone for ever. All these were brought to this mischief by witches, by women, by counterfeit javils, that took upon them to use the art, not only robbing them of their money, but of their limbs and perpetual health. And I, with certain others, diligently examining these poor people, how they came by these grievous hurts, and who were their chirurgions that looked unto them, and they confessed that they were either witches, which did promise by charms to make them whole, or else some women which would make them whole with herbs and such like things, or else some vagabond javil, which runneth from one country to another, promising unto them health, only to deceive them of their money. This fault and crime of the undoing of this people were laid unto the chirurgions—I will not say by part of those that were at that time masters of the same hospitals,—but it was said that carpenters, women, weavers, cobblers, and tinkers did cure more people than the chirurgions. But what manner of cures they did I have told you before—such cures as all the world may wonder at; yea, I say such cures as maketh the devil in hell to dance for joy to see the poor members of Jesus Christ so miserably tormented.

"What shall I say hereunto, but lament and pray unto our Lord Jesus Christ for His precious blood-sake that He shed upon the cross to illuminate the hearts of the magistrates for amendment hereof. And that this rabblement of runagates, with witches, bawds, and the devil's soothsayers, with tinkers, cobblers, and sow-gelders, and all other their wicked coherents, of these same devilish and wicked sects, which doth thus abuse this noble art of medicine to the utter defacing of the same, may be reformed and amended, and every one to get their living with truth in the same arts that they have been brought up and well exercised in, either else to be grievously

punished as they be in all other countries, and as they have been here in this country in times past."

It is clear that Gale had a high reverence for his work, for at a time when he confesses that "few who have well brought up their son will put him to the art of surgery, because it is accounted so beggarly and vile," he says that "the chirurgion must also in these his operations observe six things principally. First, that he doth it safely, and that without hurt and damage to the patient. Secondly, that he do not detract time or let slip good occasions offered in working, but with such speed as art will suffer, let him finish his cure. Thirdly, that he work gently, courteously, and with so little pain to the patient as conveniently you may, and not roughly, butcherly, rudely, and without a comliness. Fourthly, that he be as free from craft and deceit in all his workings as the east is from the west. Fifthly, that he take no cure in the hand for lucre or gain's sake only, but rather for an honest and competent reward, with a godly affection to do his diligence. Last of all that he maketh no warranty of such sicknesses as are incurable, as to cure a cancer not ulcered, or elephantiasis confirmed, but circumspectly to consider what the effect is and promise no more than art can perform; and you shall do these things much the better (yea, without these you cannot anything profit your patient) if you understand the manner and exact ways of making tents, splanes, stuphes, bolsters, and convenient rollings."

Addressing the young surgeons of his own day he says, "I pray you remember that ye be very studious in this art, and diligent and neat in the practising thereof; and also to be modest, wise, and of good manners and behaviour, and that you lack none of these good properties that we have spoken of before, lest when you shall be called for in the time of necessity, to serve princes and other noble persons, ye do not only dishonour yourselves and your country, but this worthy art also. Remember, I pray you, what great charge is committed unto you in the time of wars. Ye have not only the charge of men's limbs, but also of their lives, which if they should perish through your default, either in neglecting of anything that were necessary for their health, which you ought to be furnished withal, either else through lack of knowledge which ye ought to have in your art—I say, if these defaults be in you and the people perish in your hands you cannot excuse yourselves of your brother's death."

Speaking of the decay of surgery, he says, "The princes with their people are not only evil served—and sometimes not served at all,—but the noble art of chirurgery is utterly overthrown and brought to ruin, and the true professors thereof at this day be so few in number that it is to be wondered at. I have myself in the time of King Henry VIII helped to furnish out of London in one year, which served by sea and land, threescore and twelve chirurgions which were good workmen and well able to serve, and all Englishmen. At this present day there are not four-and-thirty of all the whole company of Englishmen, and yet the most part of them be in noblemen's service, so that if we should have need I do not know where to find twelve sufficient men. What do I say! sufficient men? Nay, I would there were ten amongst all the Company worthy to be called chirurgions, and let the rest do such service as they may; for if there be need of service, I think their chirurgery shall appear to some man's grief and pain."

Gale was in advance of his time because he had a clear perception of the unity of medicine. Until about 1850 the training of a surgeon was wholly distinct from that of a physician, and so far as might be the two branches were kept as separate as possible, the physician maintaining that the surgeon was merely his servant, whilst the surgeon strove as far as in him lay to emancipate himself and to do without the aid of the physician in the treatment of his cases. Yet Gale very wisely observes, "But for to counsel with the physician, being a grave and a learned man in the principles of this art—in matters of weight,—I take it to be very necessary; for what is he that is wise that will refuse the counsel of a wise and learned man, and specially of him that possesseth the principles of the same art? for physiologia, whereof the physician taketh his name, is the first and chiefest part, which he that worketh in the art of medicine doth prove, for that it doth consist in the knowledge of the seven natural things, and in the residue thereunto appertaining. But yet this doth not follow that a learned and expert chirurgion should not use diet and purgations and other inward medicines at all times when need doth require. For if you would so understand it, one part of their sayings should so repugn against another and so confound the whole, but their meaning was that the unlearned chirurgions, and those that be young men, which be not well practised, that they should take counsel as well as of the learned physician as of the learned chirurgion, for this art is so joined together that neither may the parts be divided, neither yet the instruments, without the overthrow and destruction of the whole art."

And in another place he continues the same argument, saying, "Thus I do conclude that these three instruments—the use of the hand called chirurgia, convenient diet called dieta, and the ministering of convenient medicaments named pharmacon or medicine—are most necessary for those men that shall cure hurts, griefs, and diseases, and in no case may be separated or taken from them. For like as the carpenter and shipwright must of necessity use like instruments to finish and bring to pass their work withal, even so must the artists in this art, by what name soever you will call them, have and use convenient instruments to bring to pass the desired health, which is the end of this art. If the carpenter should say unto the shipwright, thou must not use the axe, the saw, the piercer, nor yet the hammer, for that they be proper instruments for my art; then the shipwright might answer him and say, they be proper for my art also, and without these instruments I cannot build my ship, nor bring to pass the desired end of my art. Even in the like manner it may be said in the art of medicine, for whether he be called by the name of a physician, or by the name of a chirurgeon, or by the name of a leech, or by what other name you will call him, if ye will admit him to cure wounds, tumours against nature, ulcers, or what diseases soever they be, it is necessary that he have his proper instruments apt and meet to bring the same to pass withal. . . . The chirurgions ought not to be forbidden neither the ministering purgations, nor yet of diet, forasmuch as they be their chief and principal instruments, without which they cannot bring to pass their desired scope of health."

(To be continued.)

Cystitis and its Bacteriology.

By G. E. GASK, F.R.C.S.

MR. PRESIDENT and Gentlemen,—The object of this paper is to give a short account of our knowledge at the present time of the subject of cystitis and its causation.

Historical survey.—At the beginning of the nineteenth century very vague notions were held concerning the causation of cystitis. The ammoniacal decomposition of urine was put down to a purely chemical process acting through the medium of certain unorganised ferments, such as mucus, pus, and extractives. Pasteur, in 1860, was the first to make the great discovery that the decomposition of urine was due to the action of micro-organisms, and so lead the way to a proper study of the disease.

His theories were at first supported by many followers, but they had very many opponents. The action of micro-organisms outside the body was admitted by these, but they would not admit their action in the bladder during life.

It was not for twenty-five years that the microbic theory was generally admitted, and that more advanced work began to be done.

By a large number of the opponents to the microbic theory the cause of cystitis was held to be such things as retention of urine or traumatism, circumstances which we now recognise only as predisposing factors. For several years after the microbic theory was well established very little was made out, for bacteriological methods were very imperfect. Without making cultures and getting pure cultivations of the different varieties of micro-organisms one could not give any definite opinion as to the exact species of bacterium which was causing the disease.

A great impetus was given to the study by the introduction by Koch of the method of making plate cultures. By this means the different growths could be separated and distinguished, and so a deeper and more accurate insight into the disease was gained.

Bumm, in 1886, was the first to make use of Koch's plate cultures for the investigation of eight cases of cystitis in puerperal women. These were all cases of cystitis following catheterisation, and the urine was acid and contained pus. In each he isolated an organism of the diplococcic form, cultures of which grew like the *Staphylococcus pyogenes aureus*. Pure cultures of this organism injected into the bladders of goats and dogs produced no cystitis, but after injury to

the bladder wall by means of chemicals or by the production of retention of urine a purulent cystitis was set up.

In 1879 Bouchard discovered a bacillus which he named "*la bactérie urinaire*," but with the methods then at his disposal he was not able to identify it.

In 1887 Clado described a bacillus which he called the "*Bactérie septique de la vessie*," and which he said he had frequently found in cystitis urine.

In the same year Hallé published an account of fifty cases of cystitis, in forty-seven of which he found a bacillus identical with the *Bactérie septique* of Clado. The urine in these cases was always purulent and also acid. He found the organism not only in the urine, but also in the kidneys, and in abscesses round the kidneys. Indeed, in a few cases he found it in the heart's blood when a general infection had occurred. Injection of pure cultures into the bladders of guinea-pigs, together with artificial retention of urine, produced a severe purulent cystitis. Injected into the blood in pure cultures it quickly produced death by causing a general infection.

Albarran, who worked with Hallé, described a similar bacillus as being the most common organism to be found in cases of cystitis, and as being found almost constantly and often in pure culture in the bladder. This was of very great importance, seeing that the authors had been able to isolate a bacillus which was the common cause of cystitis. The bacillus described was a short organism, with rounded ends, which did not liquefy gelatine and did not stain by Gram. It is almost without doubt what we now call the *Bacillus coli communis*.

In 1889 Albarran published some more results, by which he ascertained that the kidneys in cases of ascending nephritis were infected by the ascent of organisms from the bladder. The same organism as is infesting the bladder was found in the kidney and in perinephritic abscesses. Organisms must be able to extend up the ureters from the bladder, and pass from the pelvis into the substance of the kidney and also into the surrounding tissue, producing the so-called surgical kidney.

The researches of these authors stimulated others to further research, with the result that there is accumulated now a large amount of literature on the subject. Among the best known names may be mentioned those of Tuffier, Doyen, and Rovsing.

Rovsing, in 1889, described the following varieties of organisms as found in cystitis:

Tubercle: Staphylococcus pyogenes aureus, S. p. albus, S. p. citreus, Streptococcus pyogenes ureæ, Diplococcus pyogenes ureæ, Coccobacillus pyogenes ureæ, Micrococcus pyogenes ureæ, and many others.

All these, with the exception of tubercle, had the power of decomposing urine. Injection into the animal bladder did not produce cystitis unless an artificial retention of urine was produced.

Krogius, in 1892, isolated in a number of cases a bacillus which he identified with the *B. coli communis*. In 1897 Melchior published the most complete and exhaustive account of cystitis and its bacteriology that has yet been seen.

At first sight it is confusing to observe the number of different organisms that have been described. Their nomenclature is often quite unfamiliar to us. It must be remembered that in all probability the same organism has been described by different authors under different names, and also that the same organism has been described by the same author under two separate names. It is found now, instead of there being some thirty or forty organisms capable of producing cystitis, they are much less numerous.

Examination of the urine.—The first thing one wants to know, before examining the urine in disease, is the condition of the normal urine. It has been shown definitely that the normal urine in the healthy bladder is sterile. The study of the urine in disease presents at the outset certain difficulties. In order to ascertain accurately the organism which is the cause of the cystitis, it is necessary to obtain first of all a specimen fresh from the bladder, and uncontaminated by organisms from the skin or air. It is found that if in a healthy person the orifice of the urethra is carefully cleansed, and a sterile catheter passed, contamination may still occur. The cause of this must be looked for in the urethra. The normal urethra has been found to contain organisms. The most common one to be found is the *Staphylococcus albus*. Other forms may be found, including the *Bacillus coli;* and the smegma bacillus is commonly found about the preputium, especially in women.

In order to make quite certain of obtaining a specimen without any contamination from these sources, it has been found necessary to wash out the urethra eight or nine times with some lotion such as boracic acid, and then to pass a sterile catheter. This is a lengthy and laborious method, and likely to be objected to by the patient. For all practical purposes one or other of the following methods is sufficient. Carefully cleanse the orifice of the urethra with soap and water, wash off the soap, and swab well with some antiseptic such as perchloride of mercury, 1—2000. Now pass a sterile catheter, lubricated with boiled olive oil—the ordinary carbolic oil or vaseline is full of growth,—and draw off the urine into a sterile flask. A simpler way still is to carefully cleanse the orifice of the urethra, and then allow the patient to pass water into a sterile vessel. In both cases the first flow of urine should be discarded; most of the organisms introduced by the catheter will have been washed out by the first flow of urine.

From the urine obtained in this way cultures must be made. Agar and gelatine tubes should be inoculated, and also plate cultures of various dilutions made. The object of making cultures is to isolate the different varieties of bacteria present and to obtain pure cultures, so that their various characters may be ascertained and the species identified.

A drop of urine should also be examined fresh under the microscope, and film preparations made and stained. If organisms are very scanty, as seen by the film preparations, a large bulk of urine may be incubated by itself.

By these means one can ascertain easily and quickly if there are large quantities of organisms present, and whether they are cocci or bacilli.

It is also very important to test the reaction of the urine as soon as it is passed. If urine is allowed to stand for some time in a dirty urine glass and exposed to the air, it commonly becomes alkaline. Urine is very often described as being alkaline, though if it is tested as soon as it is passed it proves to be acid.

The examination of the plate cultures is now the most important point. It is easy to see from these if there is more than one variety of colony present. Sub-cultures of each variety are made, and the growth and reactions of these tested in the different ways for their proper identification. If necessary animal experiments may have to be done.

Such are the ordinary methods at present in use to determine the presence and nature of bacteria in urine.

The pathogenicity of the bacteria in urine.—It may now be asked, what proof is there that these bacteria that have been isolated from the urine are really the cause of cystitis?

An elaborate series of experiments has been made to prove this. First of all it was necessary to ascertain whether the organisms found had the power of decomposing urea. To do this it is necessary only to take a flask of normal urine, and sterilise it by boiling, and then to inoculate it with the culture one wishes to examine. Test the reaction, and estimate the amount of urea before and after. It was found that, of the ordinary organisms capable of producing cystitis, some have great power of decomposing urea, and others little or none.

The next question is, will these organisms injected into the bladder of an animal produce an inflammation of the bladder? The answer is, that by themselves they are not capable of producing a cystitis. They are washed out of the bladder by the next flow of urine, and before they have had time to produce their harmful results. If now, after injection into the bladder, a ligature is placed round the penis, so as to produce a retention of urine, or the bladder is injured by scraping with some instrument, a virulent cystitis is set up. This cystitis rapidly disappears as soon as the retention is relieved. This has been proved by a repeated number of experiments.

It may be laid down as a rule that bacteria alone are not sufficient to produce a cystitis, and that there must be as well some predisposing factor.

Of the predisposing factors the most common is retention of urine. The retention may be due to stricture of the urethra, enlargement of the prostate, or some disease of the spinal cord; or it may follow some slight operation, such as ligature of piles.

Anything that injures the wall of the bladder, or interferes with its nourishment, acts as a predisposing factor.

Injury may occur from the use of the sound or the lithotrite, or during the act of parturition.

A new growth of the bladder is an example of interference with the nourishment.

Varieties of organisms found.—Research has shown that there are a very large number of organisms that are capable of producing pus in any part of the body, but that there are a certain number that have a special facility thereto.

The same thing may be said of cystitis. There are a very large

number of bacteria that may, under certain circumstances, produce cystitis, but there are only a few that are commonly found.

The most common varieties found are—*Bacillus coli communis, B. proteus, Staphylococcus pyogenes aureus* and *albus, Streptococcus pyogenes.*

Among those that are fairly common, yet not so common as the preceding, may be enumerated the tubercle bacillus, the typhoid bacillus, and the gonococcus.

Consideration of the different species, and their effects on the urine.—*Bacillus coli communis.*—This organism has been described under a number of different names. We now believe that it is identical with the "bactérie pyogène" of Albarran and Hallé, and with the "coccobacillus pyogenes" of Rovsing. The bacillus is by far the most common organism found in cystitis. It is a most wide-spread organism in nature. It is found in water, especially that contaminated by sewage; it is found in large quantities in the normal intestine of man. It may be found in the mouth, on the surface of the skin, and in the normal urethra. It is found in all varieties of cystitis, in men as well as in women. It is found in acid urine as well as in neutral, and also in stinking ammoniacal urine. It may be found, and very often is, in pure culture, or it may be mixed with other organisms. If the bacillus is found in pure culture, the urine is always acid. If it occurs in ammoniacal urine, it is always mixed with some other organism that has the power of decomposing urea.

Generally the urine from a case of cystitis due to this bacillus has a somewhat fœtid, or almost feculent odour.

The three great characters, then, from such a case are—the urine is acid, contains pus, and has an evil odour.

Usually speaking, the bacillus is present in very large numbers, and the urine, immediately it is passed, exhibits a uniform turbidity, which is almost exactly similar to a broth culture of the organism.

Filtration through a coarse filter, such as an ordinary filter-paper, has no effect on reducing the turbidity, the bacilli passing without difficulty through the coarse meshes of the paper. If a drop is examined under the microscope, the motile bacilli can be seen in large numbers darting to and fro across the field.

The size of the bacillus varies very much. Sometimes they are very small and short with oval ends, resembling in this stage a coccus; and sometimes, especially in broth, they grow out in long threads. Very probably this variation in size has led to the mistakes in identity by various authors, and explains why they have been classified under such different names.

The bacilli will grow quite well in normal sterile urine, and will remain alive for a long time. The effect of their growth on the urine is very slight; the urine remains acid, or the urea is only slowly decomposed.

Effects on animals.—Injected under the skin the coli bacillus will probably only cause a local abscess. Injected into a vein it may induce a fatal septicæmia. Injected simply into the bladder of an animal, it is washed out again without causing any deleterious results.

Ligature of the penis or some injury to the bladder wall will after such injection cause a purulent cystitis in a few hours.

The most common organisms to be found in urine in conjunction with the *Bacillus coli* are *Bacillus proteus*, staphylococci or streptococci, and occasionally the tubercle bacillus.

Proteus vulgaris is the same organism that was described by Krogius and Schnitzler under the name of the "*Uro-bacillus liquefaciens septicus.*" It is nothing like such a common organism, and, according to my own experience, is rarely found in pure culture. The cases in which I have found it have been those of long-standing cystitis with ammoniacal urine, such as one sees in connection with chronic spinal disease.

This bacillus can be easily distinguished from the colon bacillus, both from its cultural reactions and also from its effect on the urine. Gelatine is very rapidly liquefied, which distinguishes it at once from the *Coli bacillus*, and also it does not give the other tests of coli, such as formation of gas, coagulation of milk, reduction of neutral red, and formation of indol, etc.

The action on urine is very marked. If fresh sterile urine is inoculated with the organism and incubated in the warm it is found that in about five to six hours the urine becomes turbid, markedly alkaline, and has an ammoniacal smell.

Under the microscope it can be seen that a large number of triple phosphate crystals have been formed.

Animal experiments.—To guinea-pigs this bacillus injected under the skin or into a vein is very fatal. Contrary to most other organisms, this bacillus, when injected into the bladder of an animal, is able to produce a cystitis without the aid of any factor, such as retention of urine. The reason of this is probably its great power of decomposing urea and producing ammonia, the ammonia acting as a chemical irritant to the bladder wall.

It has been stated that the finding of this bacillus should lead to the giving of a grave prognosis, cases of this sort often having a fatal termination. This point, however, needs further elaboration before it can be laid down as a rule.

Streptococcus pyogenes.—This coccus is found in a certain number of cases, and is similar in all respects to the streptococcus which is the cause of erysipelas, or acute cellulitis, or septicæmia. It is occasionally found in pure culture, but more often with other bacteria.

The important points about it are—when found in pure culture, or with organisms which have not the power of decomposing urea, the urine is always acid; that is to say, it has no power in itself of decomposing urea; injected into the bladder of an animal without injury or retention, it is powerless to produce cystitis.

Staphylococci.—These bacilli are found in fair frequency, both the *Staphylococcus aureus* and *albus*. The urine in these cases is almost always both strongly alkaline and purulent. Injected into the bladder of an animal together with ligature of the penis a cystitis is produced, together with ammoniacal urine. The cystitis quickly disappears when the retention is relieved.

In reading the literature on the subject one is struck by the very frequent allusion to an organism called the *Micrococcus ureæ* and the *Micrococcus ureæ liquefaciens*. These two varieties are referred to as being the most frequent bacteria found in cystitis. These bacteria do not come into the category of the well-known bacteria, and one would suppose from the description that they are only found in urine.

Writers of the present day do not describe any bacteria under those names. After carefully considering the characters of the *Micrococcus ureæ* that have been described, the opinion I have formed is that they are nothing more or less than the different varieties of staphylococci described under a different name. Their characters are in all essentials the same.

Tubercle bacillus.—Tubercle bacilli are found with fair frequency in the urine, and they may come from a tuberculous ulceration of the bladder or from a tuberculous infection of any other part of the urinary system.

Rovsing was the first to investigate the effect of the tubercle bacillus on urine, and he found that it would grow slowly in normal sterile urine, and that it does not decompose urea, the urine remaining after some weeks acid.

The urine from an uncomplicated case of tuberculous cystitis is also acid; it contains pus, often in large quantities, and often blood. Judging from these results, it was concluded by some writers that in a case of cystitis where the urine was acid the organism must be the tubercle bacillus.

As has been shown above, this view is erroneous. In many cases the tubercle bacillus may be found in pure culture, but a secondary infection may occur. The most usual organism to be found associated with it is, as one would expect, the most common organism of cystitis, namely, the coli bacillus.

This secondary infection is a very important one from the clinical aspect. The coli bacillus entering the urino-genital system, that is already the seat of a tuberculous infection, finds the soil already prepared for it, and it grows with great ease, and its effects are in proportion much more severe.

The determination of the presence of tubercle bacilli in urine presents several difficulties. Firstly, they will not grow, or only with great difficulty and very slowly, on the ordinary media; so that cultures are very little help. Secondly, when present they do not occur in such enormous numbers as do other bacilli, such as the coli class. A very careful search has to be made for them, and a very great help in the search is the centrifugal machine. Another difficulty which sometimes presents itself is that the urine may be contaminated by the smegma bacillus, which resembles the tubercle bacillus very closely in both its morphological characters and in its staining reactions. This mistake can always be avoided by carefully cleansing the orifice of the urethra and by passing a catheter.

Diagnosis.—We see, then, that the mere finding of tubercle bacilli in the urine is not sufficient to establish the diagnosis of tuberculous cystitis; the bacilli may come from any part of the urinary apparatus. From the point of view of treatment it is very important to accurately localise the affection, and to do this cystoscopical examination of the bladder and catheterisation of the ureters may be of great use. The mere inability to discover tubercle bacilli microscopically, even after sedimentation with the centrifuge, is not

sufficient to negative their presence. Very careful search on several successive days is necessary before a negative diagnosis can be arrived at; and even then it cannot be made absolutely certain without animal experiments.

The following point is one of some value:—If plate cultures are made from cystitis urine, and a considerable quantity of the urine is employed, and no growth appears within forty-eight hours, and also under the microscope no organisms whatever can be found, the strong probability is that the cystitis in that case is due to tubercle.

The finding of growth on the ordinary culture media does not negative the presence of tubercle bacilli. A secondary infection may have occurred. There is one other organism which does not grow on the ordinary media which would yield similar results, namely, the gonococcus; but microscopically it is found with the greatest ease, so that there should be no ground for mistake between the two.

Typhoid bacillus.—It has been found that in a very large proportion of cases of typhoid bacilli are shed in the urine. The urine as soon as it is passed presents a uniform turbidity, and under the microscope large numbers of the bacilli can be seen. Commonly the patients present none of the clinical signs of cystitis. This condition is known as bacilluria. The bacilli are probably passed through the kidney into the bladder, or they may be brought to the bladder wall directly by the blood-stream. If now one of the predisposing factors, such as retention of urine, is present, a true cystitis may be set up.

Gonococcus.—True cystitis, due to the gonococcus, seems to be a rather rare disease, but it has been definitely proved to exist. The most important writers on the subject are Krogius, Barlow, Guyon, Melchior, and Wertheim. According to these authors gonorrhœa may occur without the passage of any instrument. If it occurs it is in a man the subject of posterior urethritis, and in whom the general resistance of the body has been lowered by some constitutional disease, such as tubercle or morbus cordis. In such a case the anatomical barrier between the urethra and bladder, namely, the sphincter vesicæ, which ordinarily is sufficient to prevent infection of the bladder, is overpassed.

In such cases a very severe cystitis is the result. The urine, which generally remains acid, is turbid, and contains large quantities of pus, and often blood. Under the microscope numbers of the diplococci are seen of the characteristic shape of gonococci, situated for the most part in the interior of the pus cells, and having the characteristic staining reaction of gonococci, that is they stain by the ordinary basic aniline dyes, and are decolourised by Gram's method.

Wertheim relates one case in which he removed a piece of the mucous membrane from the bladder wall and found the gonococci also in that. Inoculation of the ordinary culture media yields no growth. On blood-serum gonococci will grow with difficulty.

It seems, then, that cystitis can undoubtedly be due to the gonococcus; but this is a rare result, and the diagnosis must be made with great care, as the disease may be simulated very closely by posterior urethritis. The above-mentioned organisms are those that are most commonly found in cases of cystitis.

Various others have been described from time to time by different authors, but they are not well-known species, and it is difficult to say what they really are.

Mode of entrance of bacteria into the bladder.—After the consideration of the different species of bacteria that produce cystitis the most important point is to decide how they gain entrance into the bladder, and once there how they produce a cystitis. There are four possible means of entrance:

(1) By the urethra.
(2) By extension of disease from a neighbouring organ.
(3) By means of the kidneys and ureters.
(4) By the blood-stream direct.

The first of these ways is by far the most common.

Infection through the urethra.—This is almost always produced by the passage of some instrument, such as a catheter or sound. Every one knows how common it is for a man to suffer for years from retention of urine due to an enlarged prostate, the urine remaining natural until some day for examination a sound is passed, and an acute cystitis results.

Pasteur was the first to recognise this, and he advised that all instruments should be sterilised before use, and this fact has been fully recognised for many years. As we have seen before, it does not suffice merely to introduce an organism into the bladder to produce a cystitis; other factors are necessary, such as any of the predisposing factors previously mentioned. Proof of this is the fact that many patients are in the habit of passing instruments daily for years, and often without any pretence at asepsis, and yet no cystitis supervenes.

We know also that retention alone without introduction of organisms is insufficient.

It must be understood, then, that the most common way to infect the bladder is by the passage of an instrument. The instrument may carry in organisms from without,—that is to say, the instrument is not sterile; or a sterile instrument may in its passage sweep before it organisms that are living in the wall of the urethra. This is, however, not the only way in which the bladder may be infected from the urethra.

It has already been stated that in the case of a posterior gonorrhœal urethritis the growth of the organism may extend back, past the sphincter vesicæ, which usually acts as a barrier, into the bladder.

It is probable that a similar mode of infection occurs sometimes in cases of retention of urine due to an old stricture of the urethra in which the urethra behind the stricture becomes dilated. A certain amount of backwash may occur during an attempt to pass water, and organisms may be swept back into the bladder. Instances are recorded in such cases in which cystitis has occurred without the passage of any instrument.

In females, owing to anatomical considerations, it is possible that infection sometimes occurs without the passage of an instrument, and is due to the direct extension of organisms up the urethra. The urethra in females is so short and so wide, and the orifice is situated in the vulva, which harbours such hordes of bacteria, that this seems quite a reasonable possibility.

Infection by extension from a neighbouring organ.—There are a certain number of cases in which cystitis occurs, and in which no infection by the urethra can be traced, and the mode of entrance of the bacteria must be looked for elsewhere. Instances occur in which an abscess has formed in a neighbouring organ,—for instance, in a Fallopian tube. This may become adherent to the wall of the bladder, and actually burst into it. Such cases present no difficulty. It is also found that where an abscess has formed in an adjacent organ bacteria may find their way through the wall of the bladder without any gross anatomical lesion being present.

It has been shown that in cases of injury to the bowel, as in strangulation without there being any perforation, peritonitis may occur from the passage of the coli bacillus through the wall of the bowel. The same thing probably applies to the bladder. These cases occur most often in women, the abscess being in connection with a Fallopian tube or with the uterus. A prostatic abscess in man may give the same result.

Infection from the kidney.—It is well known how often during the course of an infectious fever an acute nephritis supervenes. In such cases micro-organisms may actually be found in the kidney substance, having been brought there presumably by the blood-stream.

Micro-organisms, though usually retained by the kidney, may be passed through with the urine into the bladder, and so set up a cystitis.

One might imagine at first sight, in such cases of infectious fevers with disease of the kidney, that organisms would be passed in large quantities, but this does not seem to be the fact.

It is easy to see that this is not a very usual way of acquiring cystitis, for to bring such a result about, it is necessary to have, first, an inflammatory focus in the kidney, which will allow infiltration of bacteria; and secondly, a predisposing factor, such as retention of urine.

Entrance by the blood-stream.—There occur now a few cases in which entrance by any of the above-mentioned ways cannot be traced, and in which it must be assumed that the organisms have been carried directly to the bladder by the blood-stream; that they have found surroundings suitable to their growth and nourishment; and that by their growth they have given rise to a definite pathological change. The tubercle bacillus is the best instance of a bacterium gaining entrance to the bladder in this manner.

Cases arise in which entrance by any other means cannot be explained, in which no instrument has ever been passed, there is no disease of any adjacent organ, and in which no disease of the kidney can be discovered. The pathological anatomy also affords evidence which strengthens this view.

In the early stages of the disease, before ulceration has taken place, small miliary tubercles are found under the mucous membrane. This, indeed, from our knowledge of the disease in other parts of the body, is to be expected.

An interesting experiment bearing on this point was performed by

Clado. After damaging the wall of the bladder of a guinea-pig he injected tubercle bacilli under the skin, the result being a tuberculous infection of the bladder.

The manner in which a cystitis is caused.—We have now seen the way in which organisms may gain entrance to the bladder, and also that besides their presence an additional factor, such as retention of urine or injury to the bladder wall, is necessary for the production of cystitis. It is necessary now to consider, given these two conditions, in what way the bacteria act to produce this result. It was thought at first that the urea by the action of the micro-organisms was decomposed into ammonium carbonate and ammonia set free, and that the inflammation of the bladder was due to this chemical irritant.

We know now, however, that the organisms that most commonly produce cystitis have little or no power of decomposing urea, and that the urine in such a case remains acid, and may remain acid even if the disease is so severe as to be fatal. Some additional cause of inflammation must therefore be looked for. If the mucous membrane of a bladder from a case of cystitis be examined, it will be found to show congestion and thickening. If microscopical sections are prepared, micro-organisms can actually be seen lying in the mucous membrane. It is almost certain, therefore, that bacteria can exert their influence on the bladder in some other way than by merely decomposing the urea. It is probable that after entrance into the bladder they multiply rapidly, and if circumstances are favourable to them they settle in the mucous membrane, and there grow and multiply and produce their toxins, and so cause an inflammation of the bladder wall.

It must also be borne in mind that the general constitutional state of the patient as well as the local conditions plays an important part in inflammations of the bladder as in other disease. An example of this is the rapid way in which, in an individual disposed to tubercle, a gonorrhœa will spread, extending to the epididymis, vesiculæ seminales, and bladder. Another instance is the severe and rapid course of a cystitis in a case of spinal disease.

Prophylaxy and treatment.—We have seen that the usual method of acquiring a cystitis is by the passage of an instrument. The mere passage of an instrument may be the cause of complicating a comparatively harmless disease with a very severe and painful condition, which may lead to infection of the kidneys, or even to the death of the patient.

It is therefore of extreme importance, if possible, to guard against this. In the first place, remembering the possibilities of infection, an instrument should not be passed unnecessarily. If the necessity arises the instrument must be first sterilised, and then before passing it the orifice of the urethra should be carefully cleansed.

These precautions, however, may not be sufficient, owing to the presence of organisms in the urethra. Some German authorities recommend a preliminary flushing out of the urethra with boracic acid, and it is a point worthy of consideration.

The treatment of a case in which cystitis has already occurred presents great difficulties. The first object to attain is the removal, if possible, of any predisposing factor such as retention. If this can be done the cystitis will probably rapidly disappear. In the large majority of cases, however, this is impossible.

Treatment in such cases may take two forms: treatment internally by the administration of drugs, and local treatment.

Administration of drugs is generally quite inefficacious. Drugs given to make the urine acid are ineffective because the urine is already acid, and the organisms grow well in such a medium. Given to kill the organisms they are ineffective, because they cannot be given strong enough to kill.

An exception must be made in the case of bacilluria, where there is no true cystitis. Urotropin in these cases is of great service. When, however, there is true cystitis, urotropin seems to be of little value.

It is possible that in cases of cystitis with marked alkalinity of the urine, drugs given to render the urine acid, given in conjunction with urotropin, may be of some value.

Local treatment is by far the most important, and this should be begun early.

The best method of treatment to pursue seems to be the following:—Wash the bladder out with a solution of silver nitrate, about 1—500, allow it to remain in for five minutes, and then flush out the bladder with boracic acid solution. This should be done two or three times daily. General experience seems to lead one to the opinion that this is the best form of treatment. More work, however, is required on the subject before a definite statement can be made.

If, in spite of irrigation, the cystitis is getting worse, some form of operation may be necessary, such as drainage of the bladder by a supra-pubic or perinæal wound.

Summary.—Shortly, the conclusions we may come to in regard to cystitis are these:

(1) Cystitis is always due to micro-organisms.

(2) Micro-organisms alone are not sufficient to produce a cystitis, but some predisposing factor is necessary, such as retention of urine or injury to the bladder; and also these predisposing factors without micro-organisms are insufficient.

(3) Many forms of micro-organisms may produce a cystitis, but the most common one is the *Bacillus coli communis.*

(4) In the large majority of cases the urine is acid.

(5) The normal urethra contains organisms. For proper prophylactic treatment the urethra, as well as the orifice of the urethra and the instrument, must be rendered sterile.

In conclusion I may say that several statements in this paper are contrary to those made in text-books.

Most of the points mentioned have been collected from recent writings on the subject, chiefly those of Melchior, and many of them I have confirmed by my own observations.

REFERENCES.

1. BUMM.—*Die Aetiologie des puerperalen Blasenkatarrhs.*
2. BOUCHARD.—*Maladies par ralentissement de la nutrition.*
3. CLADO.—*Étude sur une bactérie septique de la vessie.*
4. ALBARRAN.—*Étude sur les reins des urinaires.* Paris, 1889.
5. MELCHIOR.—*Urin und Urin-Infection.* Berlin, 1897.

The Country Doctor: his Trials, Recreations, and Rewards.

*Presidential Address to the Gloucestershire Branch of the British Medical Association.**

By E. C. CRIPPS, M.R.C.S.Eng., L.R.C.P.Lond.

GENTLEMEN,—When, last May, I received a communication from our secretary asking me if I would consent to be nominated as President of this branch for the ensuing year, the question came as a complete surprise, and it was not without considerable hesitation and some misgivings that I answered in the affirmative.

I hesitated because I felt that there were so many other members who would have occupied this chair with great advantage to the branch; and my misgivings arose from the doubt I had whether, however much I tried, I should be able to fill this important office to your satisfaction. I consented, however, because I fully realised that if you elected me, you would, as members of the branch, be conferring on me the highest honour which it was in your power to bestow, and would be reposing in me a confidence which, I assure you, I appreciate most highly, and which I will do my very best to merit. There was also another reason, perhaps you may say a sentimental one, but I felt that it would be an especial pleasure to me to occupy that chair to which you did my late father the honour of electing him exactly thirty years ago.

When I came to consider what the subject of my address should be, I decided that, rather than dilate upon any particular disease, or any special department of medicine or surgery, I would take the wide field of the busy practitioner's daily life in the country,—a life full of vicissitudes, of much hardship, and with many disappointments, yet with many pleasures and many compensations.

I propose first to say a few words about the trials and hardships of a doctor's life, and then pass on to the more pleasant subject of his recreations, or those means by which he is able to counteract or minimise to some extent the inroads which the anxieties and worries of his work would otherwise make upon the even balance of his mind or the strength of his constitution; and lastly, I would touch upon the rewards of a doctor's life,—for there are rewards, not pecuniary perhaps, but such as make the hardest life worth living,

* Printed and circulated to the members in accordance with a resolution of the meeting.

and are sufficient to compensate for the many trials and hardships inseparable from his existence.

In the Book of Job we read that "man is born to trouble as the sparks fly upwards;" and it may be looked upon as certain that, whatever a man's profession or business may be, he will have to contend with a certain number of trials and vexations which are more or less peculiar to his occupation; but I think I should not be wrong in saying that the general medical practitioner meets with annoyances as numerous as, and perhaps more varied than, those met with in any other walk of life.

A doctor's difficulties begin when, on leaving the hospital, where perhaps he may have been house surgeon or house physician, he starts in private practice, for which he is bold enough to feel himself fully equipped. He soon finds, however, that the majority of his cases are such as he has never seen in a hospital ward, and that his experience has taught him little or nothing about them. He has probably never met with a patient in whom he can find no definite disease, whose only complaint is that he feels very much out of sorts, and whose only symptoms perhaps are want of appetite and a coated tongue; and yet after a time experience teaches him that however trivial these ailments may seem to him, they are very real to the patient, and reputations are built up by their successful treatment. He learns that the personal element enters largely into the success of a general practitioner, and that a sympathetic temperament, tact, common sense, and an easy manner are of more importance than the number of letters he can place after his name.

He will find too that he has to contend with various little annoyances and petty trials, due to the peculiarities of some of his patients. For instance, there is the patient, generally a female, who adds to the difficulty of diagnosis by speaking of her pain, of whatever nature it may be, as "excruciating agony."

Again, there is the man upon whose bookshelf you will notice, while you are waiting for a few moments in the dining-room, an old edition of some medical work such as Druitt's *Vade-Mecum*, and you will very likely find that he will have endeavoured to read up his ailment, and will discuss it with you as if you were having a consultation.

Then there are the sympathetic friends who kindly tell the patient about people they know who have died of the particular disease from which he happens to be suffering; also of some one else they knew who had the same disease and got well, but the treatment in that case was quite different; the consequence of all this being that at your next visit you find the patient depressed, mistrustful, and desponding, and you may have some difficulty in restoring the confidence in yourself which has been partially undermined.

The spoilt child, again, is often a considerable trial. You sometimes find that the injudicious parent has represented the doctor to the child as a sort of bogey. "If you are not good," says the mother, "I will send for the doctor, and he will give you some nasty medicine;" or, "If you suck your thumb the doctor will cut it off;" consequently the child screams the whole time you are in the room, and a satisfactory examination is out of the question.

One of the chief trials inseparable from a doctor's life is the continual uncertainty of his movements; so long as he is within reach of his patients, he is never sure of a quiet hour, and his short intervals of leisure are never secure from interruption. The lawyer, or the man of business, after a long day's work, may draw a sigh of relief, have his dinner in peace, and afterwards throw himself into a comfortable arm-chair by his fireside, secure in the knowledge that his work is over till the following morning. Not so the doctor; he is at every one's beck and call, by night as well as day, and as soon as he has settled himself comfortably with his book or his paper after dinner, he is probably called out to see a patient whose house he has passed perhaps two or three times that day, who has been ill since yesterday, and who has sent for him at 10 p.m. because "he did not like to go through the night without advice."

There is one condition of things which, I think, sometimes constitutes a very real mental worry to a medical man, especially to one who carries on an isolated country practice, and that is the embarrassing period of heart-searching and doubt which occasionally overtakes him in the course of his treatment of a severe and important case. The patient does not seem to improve as he had hoped and expected; is he right in his diagnosis? Is his treatment the most likely to bring the case to a successful issue? In a case of life and death doubts like these may become a very real trouble to a sensitive man, especially in cases where the means of the patient do not admit of a consultation with a brother practitioner.

Then, again, as the hard-worked country doctor reads week by week in the medical journals of new appliances, new scientific methods, new modes of treatment, and the valuable aids to diagnosis to be found in the Röntgen rays, and in the science of bacteriology, he is often filled with a feeling of disappointment, almost amounting to despair, that these higher flights of his profession should, in his isolated position, be so difficult of attainment.

The collection of the money he has earned and the securing of the payment of his just debts is often a source of difficulty and embarrassment to the country doctor. In a general practice a large proportion of the accounts are for small amounts, and many men have a great objection to the employment of a collector, and yet the only other plan is to send the bills in and await the result, which in many cases will probably be *nil*.

The general practitioner is, I think, at a distinct disadvantage when compared with the consultant in the matter of payment for work done. He may be urgently summoned to a case at any hour of the night or day, and he is practically obliged to go even if he knows he will not be paid, or if he refuses he is haunted by visions of an inquest, and the rider of the jury condemning his heartless and inhuman conduct.

Consultants, on the other hand, rarely fail to get their fee—except when, with their well-known and often exercised generosity, they remit it altogether in the case of a needy and deserving patient,—because if they are called in by a practitioner, the latter considers himself to a certain extent responsible, and generally explains to the patient beforehand what the fee will be, and that it must be paid at the time; while the public understand that if they go to see a consultant at his own house they must pay the fee there and then, and they do not go unless prepared to do so.

Yet it is on record that even consultants have occasionally been swindled by unscrupulous patients, and that on more than one occasion the coins so neatly wrapped in paper have, after the patient's departure, turned out to be but shillings after all.

An amusing story is told of an eminent consulting physician, who, having been deceived more than once in this way, determined that it should not happen again. Shortly afterwards, a stranger, in the shape of an eccentric-looking old lady, was shown into his consulting room, and, after the interview, she handed him some coins wrapped in paper. Wishing to be sure of the contents of the little packet before her departure, he kept her in conversation while he unwrapped it behind his back, and then, throwing the paper into the fire, he quietly took a look at the coins, and found them to consist of five shillings. "Madam," said he, "I am afraid there is some mistake; there are only five shillings here." "Yes, I know," said the old lady, "but there would have been five guineas if you hadn't thrown the five-pound note into the fire."

It may be thought that the annoyances I have mentioned are no more than trifles after all, but it has been truly said that "trifles make the sum of human life," and it is these little things taken together which help to render a medical man's life perhaps more wearing and more worrying than any other.

Before leaving the subject of the doctor's trials, however, I must touch for a moment on the more serious side of the matter.

There can be no doubt, I think, that as each year passes it becomes increasingly difficult for the doctor to make a living at all. The lists of applications to the Medical Benevolent Fund, and the Royal Medical Benevolent College, show that the struggle for existence is arduous, and often unsuccessful, even in the case of men whose character, labours, and attainments deserve a better fate.

There are various reasons for this. One is the increase in the numbers of the medical profession, which is proportionally greater than the increase in the population. We must also remember that the people have grown more healthy of late years, and have become more educated in sanitary matters, and in the general preservation of their health. Another reason, I think, may be found in the growing tendency of the people to treat themselves for slight ailments without calling in the doctor. I do not allude so much to the use they make of patent medicines, the advertisements of which meet the eye on every hoarding, although never has the quack enjoyed such credit, or his worthless concoctions been bought more readily and universally, than at the present time. I think rather that they are encouraged in this tendency by the action of certain wholesale druggists who send out almost every kind of drug in a tabloid form, and whose wares are to be found in tempting little bottles in special show cases in every chemist's shop. I am told by chemists that there is a very large sale, not only for tabloids of simple aperients and such like, but also for antipyrin, sulphonal, and other powerful drugs, which should only be administered under medical advice.

Another serious matter for medical men is that the very nature of their work lays them peculiarly open to be attacked by unscrupulous

blackmailers and others, who, in many cases, rely for success upon the idea that the doctor will shrink from the expense and publicity of defence. That this is no imaginary danger the existence and records of the Medical Defence Union and the London and Counties Medical Protection Society are sufficient to prove. I would counsel every doctor to belong to one of these societies, and half a guinea a year is very little to pay for the advantages of membership. Nothing is more terrible for a man, especially at the outset of his professional career, than to be attacked professionally or morally; but false charges of this kind generally collapse when it is found that instead of having to deal with an impecunious practitioner, there is a strong society behind him, supported by ample means. A man joining one of these societies has always available, not only an organised and skilled means of defence, but also friends ready and willing to help him in his hour of need.

And now let us pass on to the second and more pleasant part of my subject.

I think it will be generally admitted that occasional relaxation, or recreation of some kind, is absolutely necessary for every worker if his health is to be maintained.

> "The sweet vicissitudes of rest and toil
> Make labour easy, and renew the soil."

And to no class of men is recreation more important than to the doctor with a busy practice, to whom Sunday brings but little relief from work, and for whom the weekly half-holiday does not exist.

Then the question arises, "What is recreation, and in what does it consist?" The dictionary tells us that it is "relief from toil; enjoyment; amusement." But this is a very incomplete definition, for mere relief from toil is not necessarily recreation, and what would be amusement or enjoyment to one man would be an unmitigated bore to another.

Men differ so much in their ideas of, and in their capacity for, enjoyment and amusement. To one man the daily professional rides or drives in the country seem to be nothing more than a means of getting from one place to another; the various sights and sounds peculiar to the country side possess no charm for him.

> "A primrose by the river's brim
> A yellow primrose is to him,
> And it is nothing more."

He entirely fails to notice any of those little variations of the effects of light on scenery, or the interesting habits and movements of the birds and animals which live around him on all sides. To another man these little things will be a constant source of interest and delight. The effects of light and shade produced upon the landscape by the passage of fleecy clouds across the sun; the brood of little partridges dusting themselves in the road, hurried into the grass by their mother on your approach; the date on which the first butterfly, swallow, wheatear, or redstart is seen; the cuckoo flying from point to point on the high hedge in front, and uttering his familiar call as he finally flies away high above you,—all these are a source of the greatest enjoyment to some, and happy is the man who can derive pleasure from such simple and trivial things.

The doctor's daily drives can be turned to account, and made to afford interest and recreation in another way. They bring him into frequent contact with little bits of scenery, and little peeps on by-roads, which are perhaps less often seen by anyone else. He has no time to stop and sketch a scene which strikes him as being especially pretty or noticeable, and besides, it is only given to a few to be able to use the pencil or the brush in this way; but photography has placed the permanent record of beautiful scenes within the reach of all. The art of photography has arrived at such perfection nowadays that beautiful pictures may be taken in the open air instantaneously. The hard-working country doctor can take with him in his trap a camera—and a good one can be bought for very few pounds,—and when he sees a view or a turn in the road which appeals to his sense of beauty, he can take a photograph of it in a few seconds, while the finishing of the picture provides him with recreation in his spare time at home. It may be said that there is not much scope here for art or skill, that one man with a kodak is as good as another; but this is not so. Every scene has a right and a wrong point of view, and one man will make a beautiful picture of a scene of which his inartistic neighbour will only make an ugly photograph.

Again, what different ideas medical men have of the most enjoyable way of spending their time when they get a few days' holiday! Some like a top hat and the pavements of Piccadilly, while some like to spend their off days in attending the operating theatre of some London hospital,—on the principle, I suppose, of the coachman who spent his day's holiday on the box seat of a 'bus. Some do not seem to realise what a holiday means, like the old practitioner who said he had only had one holiday in forty years, and that was when he had typhoid fever.

Others again, and I confess I am one of these, like, when they get a holiday, to leave their work entirely behind them, and fill their minds with other thoughts.

If you would have real rest of mind and body, choose a summer month, and go far away from where your work lies, throw yourself down on the short crisp turf on the top of some cliff, and look out over the broad Atlantic or the English Channel, listen to the hum of the bees in the blossoms of the thyme around you, and that indescribable murmur which seems to be characteristic of a hot summer's day; drink in the invigorating sea air, inhaling health at every breath, and forgetting the squalor and dirt in the houses of the poor in the town where your work lies, forgetting the sickness, pain, and misery which only yesterday you were labouring to relieve: you will end by thanking Heaven for your very existence in this beautiful earth of ours, wherein, as Longfellow says,—

> "It is enough for me
> Not to be doing, but to be."

If you would further enhance your pleasure, and reap still more enjoyment from the scenes and life around you, take with you a book called *The Life of the Fields*, by that apostle of nature, the late Richard Jefferies; open it at the chapter on "The Pageant of Summer," and as you read you will realise the beauty of nature, and every blade of grass, every flower, and every swallow on the wing will possess a charm and an interest for you which it never had before.

The various methods of taking recreation, or, as the dictionary defines it, "relief from toil," may be classed briefly under two heads. First, the annual holiday, when a man goes away from his work for a week or more, and seeks a change of scene and climate in his endeavour to get rest from his labours. And secondly, those occasions when for a few hours he can occupy his mind and body with something different from his ordinary work, some game or exercise, perhaps, which takes him away for a short time from his home and his everyday surroundings; or some occupation, some work, which he can carry on in his own home, and which, by reason of its differing essentially from the ordinary routine of professional toil, constitutes that rest of mind and body which is so necessary for his well-being.

First as regards the annual holiday. I have not the slightest doubt myself that, other things being equal, the man who takes an annual holiday of three or four weeks will, as a rule, live longer than the man who does not. It is not only the rest and change at the time which is so beneficial, but if he has a holiday to look forward to he does his work for the rest of the year with more zest and more spirit, and in times of trial and depression he is buoyed up with the hope of the relief to come. To be able to dress in any loose and easy style you like, to have no patients to visit, to be beyond the sound of the night bell, to have no responsibilities for two or three weeks, these things alone constitute a holiday perhaps as really as travelling in strange places or foreign countries.

And yet there never was a time when there were so many alternatives of holiday making, or so many facilities forthcoming. For two or three pounds one may now be transported to lands where the very difference in the conditions of life alone makes a holiday.

But there are some essentials of a real holiday, and if these are not observed it is possible to make a toil of what should be a pleasure. If I were asked what these essentials are, I should answer the absence of all anxiety; congenial and suitable companions; and a determination not to crowd too much into a short space of time.

A suitable companion is all-important. For instance, one may have a friend who would be a most delightful and suitable companion for a week's golf, but who would be bored to death by a week's sightseeing in Rome or Florence. Or, again, a man who would be as happy as the day is long threading the canals of Venice in a gondola might not thank you for taking him for a fortnight's yachting round the west coast of Scotland.

Then, again, whether you decide to spend your time abroad or amidst the delightful scenery of the British Isles, don't try to rush it, don't try how many places you can visit in the time at your disposal. It is the sort of superstition that it is absolutely necessary to

visit and inspect every so-called object of interest anywhere within reach, and the general rush and bustle which this entails, which does away with the sought-for rest, and turns a pleasure into a penance.

The true holiday consists not in doing nothing, but in having nothing to do; it is the sense of freedom, the feeling that there is nothing one is obliged to do, which constitutes the real change from the hard work of the year.

As I said before, travel is made easy and cheap for us nowadays, and among the many advertisements with which doctors are persecuted, and with which the postman loads our breakfast tables, there are many relating to the system of personally conducted travel. This way of travel no doubt has its conveniences, but it also has its drawbacks. It is seen at its best in the shape of a sea trip such as that to the fiords of Norway, although here in the matter of expense things are not quite what they seem. The advertisement probably entices you with a promise of fourteen days for twelve guineas, or something of that sort, but you find, on closer inquiry, that that price is the minimum, and is only possible if you are a bachelor, and content to share one of the worse cabins in the ship with three other men. If you go with your wife, and want a nice two-berth cabin, you find that the cost is more like twenty-four guineas each than twelve.

As regards personally conducted tours on land, I spent a short time in Switzerland this summer, and at one of the large hotels at which I stayed it was my lot to see a good deal of these parties. So far as I could gather from a few of the members with whom I conversed, they were engaged in trying to see the whole of Switzerland in three weeks, and I can only say that the general conclusion I came to was that I would not spend my holiday with a personally conducted party even if the whole of my expenses were paid.

But apart from the annual holiday, there are often opportunities, especially in the summer, of getting half a day free, a few hours of daylight during which we can leave our work and professional anxieties behind us, and the question arises, "What is the best way of spending these few hours of holiday?" My advice is to spend them in the open air, and combine rest for the brain with exercise for the body. If you are fond of cycling, half an hour's journey by train will take you into comparatively new country, where you can ride twenty or thirty miles through roads, lanes, and villages which, from the mere fact of their being unfamiliar, will provide the change which is so beneficial.

Then as regards exercise and recreation in the shape of games. There is one game that I would recommend to the medical man above all others, and that is golf. It is fine practice for the eye, the hand, and the temper, and brings every muscle of the body into play. In the words of a writer in the book on golf in the Badminton Library, "there comes a time, even before middle life is reached, when rowing, tennis, rackets, football, and even cricket, are a weariness to those who once excelled in them. The man who has gloried in his prowess at these games begins, so far as they are concerned, to grow old, but the golfer never grows old until he is actually decrepit. Performers at other games are restricted within comparatively narrow limits of age, but you may begin golf as soon as you can walk, and go on as long as you can walk. Care may sit behind the horseman, but she never presumes to walk with the caddie."

There is also a peculiarity about golf which is very consoling to the beginner, and which I have not observed in any other game, and it is this, that the worse you play the more exercise you get. We are exceptionally favoured in this county, for in Cleeve Hill and Minchinhampton Common we not only have two of the finest inland links in England, but two of the breeziest and healthiest tracts of land in the United Kingdom.

And how shall we employ our leisure time at home? Many will say that when we have read the news of the day, and the medical journals, there is not much time for anything else; but every working man—and we are all working men—should have, besides his regular daily work, some amusement, occupation, or hobby to which he can turn for relief and distraction of thought. It may be some kind of art which can be practised at home, such as music, painting, or wood carving; the study of some subject of which he is especially fond, or in which he is especially interested, such as archæology, architecture, or geology; but whatever it is, there should be something to which his mind can turn for change and relief.

I must freely confess that when one comes to speak of the rewards of a doctor's life there seems to be hardly so much to say as in the case of his trials or his recreations. Great pecuniary rewards, and honours conferred by the State, fall to the lot of very few, and they are the almost exclusive monopoly of the successful consultant. Still there are rewards, and valuable ones too, which fall to the lot of the humblest country doctor.

Is it not a reward to have been the means, under Heaven, of restoring the loved to the loving, of binding again the bond which death would have dissolved? Is it nothing to belong to the most unselfish profession in the world? We spend our lives in trying to lessen the tendency to disease, that very condition by which we get our livelihood, and without the existence of which many of us might starve; surely it is as if a lawyer were to spend his life in trying to prevent litigation.

Mr. Lecky, in his work *Democracy and Liberty*, says, "The great work of sanitary reform has been perhaps the noblest achievement of our age, and, if measured by the suffering it has diminished, has probably done far more for the real happiness of mankind than all the many questions which make and remake ministries."

During the first fifty years of the Queen's reign the mean duration of life of all her subjects was augmented by three and a half years; in the last year's population of England and Wales there was a saving of eighty-four thousand deaths, and one million seven hundred thousand cases of sickness, compared with the average rates of death and sickness in the first year of her reign. The death rate in the home army was reduced by more than half, and in the Indian army by more than four fifths.

Is it no reward to have done our part in bringing about this great result, to have banished cholera from our midst, and to have rendered typhus fever one of the rarest diseases to which the inhabitants of this country are liable,—so rare, indeed, that it is not too much to say that not one practitioner in a hundred of the younger generation has ever seen a case?

The doctor is often the only stranger whose presence and counsel are sought in some of the most momentous episodes of human life; he often has great opportunities of doing good, and in the houses of the poor his advent in times of sickness is often the one ray of hope and light upon the clouds of sadness and distress.

Some few years ago a picture was exhibited at the Royal Academy which made a great stir at the time, and round which at all hours of the day were to be seen crowds of eager admirers. The picture was called "The Doctor," and was painted by Luke Fildes, R.A., for Sir Henry Tate. The profession was ennobled by that picture of the doctor wrestling with death. No doubt many of you remember it. The scene is laid in a lowly cottage where a little child is lying between life and death, and the scanty furniture and plain surroundings tell a tale of poverty and hard living. It is a visit evidently in the small hours of the morning, for the lamp is burning while the first streaks of dawn are stealing through the window. The parents are exhausted and depressed with long watching and anxiety, but they know that the doctor is their friend, and the only human being who can help them or give them hope. His face is lined with thought, and honesty of purpose and sympathy and gentleness are expressed on every feature. He is actuated by no idea of pecuniary gain, for the gratitude of the parents will probably be his only reward. That picture has done much to bring home to the minds of the British public the unrecorded and unselfish work done by the doctor in the homes of the poor; and we as a profession owe a debt of gratitude to the painter for depicting the doctor at his best, doing his self-sacrificing work, without prospect of reward save the approval of his own conscience. We also, in common with the whole nation, owe a debt of gratitude to Sir Henry Tate, who has placed the picture in that splendid gallery at Millbank, in London, where it can be daily seen and studied by multitudes of people to the end of time.

It has been truly said by an eminent member of our profession that the aspirant to medicine must look forward to a life of incessant activity and constant labour; and if he must anticipate heavy responsibilities, scanty and uncertain leisure, and little of that *otium cum dignitate* with advancing years of which other professions enjoy a large share, still there is another and more hopeful side. Work that appeals to the sympathetic aspect of human nature, and brings him into the most intimate relations with his fellows, the gratitude and confidence of his patients, the consciousness of an active, beneficent, and well-spent life,—these are great matters; and in our natural and justifiable regrets at the overcrowding and diminished dignity of the profession, we must not forget the many compensations in the lot of a fairly successful medical practitioner.

Doctors have chosen an honourable calling, in which they have endless opportunities of alleviating the sufferings of the sick, and earning the esteem and gratitude of their fellow-men. They must be prepared to endure hardships, and to face danger and death; they

must expect vexation and annoyance from those who assail their motives or their treatment; but they will have the satisfaction of knowing that they are trusted advisers in many homes, and that their presence is always welcomed by the sick and suffering.

Smithfield Letters.—IV.

Collected by JOHN STREET ROAD.

DEAR BOY,—Every rational being (I take it for granted) proposes to himself some object more important than mere respiration and obscure animal existence.

My business upon this occasion is not to compliment you upon those talents which you have, but to tell you plainly what object I would have you follow. Pliny leaves mankind this only alternative, either of doing what deserves to be written, or of writing what deserves to be read; but I am convinced that you must at present use the necessary means to achieve the latter, for I consider that the former would be, for you, a vain and frivolous pursuit. You have been preparing but recently for your examination, and although the poet was so far right who said *Sapere est principium et fons*, yet that is by no means all. That knowledge must be adorned, it must have lustre as well as weight: were I to write or speak before your examiners, I should prefer moderate matter adorned with all the beauties and elegances of style to the deepest erudition, ill worded and ill delivered.

But your last setting out at the Court of Examiners has, I find, been very favourable, and you tell me you were received with a special mark of distinction and respect; I trust you received your "pink paper" (for so you term this recognition of your merit) with that grace and dignity which is the proper behaviour of a man of fashion.

How many men have I seen who, after having had the full benefit of a medical education in some large and well-ordered hospital, yet when they have been presented to Mr. H–ll–tt did not know whether they stood upon their head or their heels! They were annihilated, they trembled, let their hats fall and were ashamed to take them up, and at length fled discomfited from the Embankment to the gaiety in the Strand.

Nor were the examiners themselves slow to mark your genteel and pleasing address, for, as you yourself inform me, they have invited you again to frequent their Court when it meets in January next. I am very glad of your connection with such friends, and I would encourage you by no means to neglect their society, for it may prove of use to you hereafter.

I have written many things for your guidance, but now I would take you still further into my confidence, and tell you of those plans which I had already formed for your future life, that you may shape yourself the more particularly for the end that I have in view.

It will be no great while now before you will be qualified to practise your medical art, and I intend that before you leave St. Bartholomew's you shall be house surgeon. In order, then, that your appointment should be made I sent a letter to your surgeon, Mr. Abernethy Potts, informing him of my desire, requesting him at the same time that he should be at some pains in choosing those others who may hold office in the hospital with you, for I did not care that my son should be compelled to associate with such men as might be in intelligence or breeding his inferiors.

Moreover I have for some three years past sent to your treasurer a donation to the Hospital exchequer of ten guineas, and I think I do not assume too much when I say that he will scarcely venture to estrange the sympathies of so munificent a supporter by allowing my wishes to go unfulfilled or my plans to be altered.

When, dear lad, you have completed your studies by holding this office, it is my intention for you to practise medicine in this place; for, as you know, Smithton Market, though but a small country village, owns no landlord but your father; and although for the comfort of my tenants I have allowed three doctors to practise hitherto their healing arts in my estate, yet I do not propose that they should in any way interfere with your success or prosperity, for when you arrive they shall quit.

I was reading but lately in a book of one of your profession, Dr. Brown to wit, a strange essay which he called "Free Competition in Medicine." He was, I think, a Scotsman, for I can no more agree with his reasoning than I can, to this day, with his fellow-countrymen; and it is my heartfelt desire that you shall not read his heretical opinions. For I can assure you that his theories shall never be put into practice while I have the means to prevent it: I will never suffer any of my dependants to seek for medical aid from any doctor save such as I shall myself approve and direct.

Thus, and helped by my wealth, you will never fall short of success. Adieu!

Obituary.

THOMAS GEORGE READ.

IT is with deep regret we have to record the death of Mr. T. G. Read, which took place on October 21st, at the age of forty-one years, as the result of septicæmia.

A student at St. Bartholomew's Hospital, he took his L.R.C.P., M.R.C.S., and L.S.A. in 1887, having five years

previously taken the Licentiateship in Dental Surgery of the Royal College of Surgeons of England. In 1888 he was appointed Assistant Dental Surgeon to the Hospital, and retained that post until the time of his death. He was elected Assistant Dental Surgeon to the National Dental Hospital in 1882, and became Dental Surgeon in 1896. He was also Assistant Dental Surgeon to the Metropolitan Free Hospital from 1887 to 1891, when he became full Dental Surgeon, retiring from that office in March, 1893.

Mr. Read was a member of the Odontological Society of Great Britain (being a member of the Council at the time of his decease), a member of the British Dental Association, and of the Abernethian Society.

His energy and interest in all that pertained to professional matters was exemplary, and as a teacher and colleague he was highly valued by all with whom he came in contact. He was surgeon-captain of the Honourable Artillery Company, and formerly surgeon-captain of the Volunteer Medical Staff Corps.

He was a keen sportsman, and as a volunteer won many prizes at the range.

His remains were laid to rest in the Marylebone Cemetery, East Finchley, on October 24th, in the presence of many of his friends and colleagues. The funeral service was impressively read by the Rev. William Ostle. He leaves a widow, but no family.

ERNEST C. FINCHAM.

Ernest C. Fincham passed away October 21st, 1902, after a rapid illness, amid much sympathy and regret, at the age of thirty-nine.

Dr. Fincham was born in England, but his early years were chiefly spent amid the fern gullies and forests of blue gum that abounded around his home in Tasmania; and it was here he became imbued with the love of the beautiful, that was always such a characteristic trait in his life. Later he crossed to Melbourne, and during his career at the Scotch College formed many friendships, not a few of which were cemented some years later at St. Bartholomew's, where many of them received their medical training.

Dr. Fincham spent some short time in travel before he settled down to his work at St. Bart.'s. Here, by his kindly and genial disposition, he endeared himself to nearly all with whom he came in contact, both his seniors and contemporaries. He devoted much time to photography, and the excellent reproduction of our founder, Rahere, that now hangs in the Library, is from his hands in those days.

After passing his final he assisted Dr. H. W. Gardner in his practice at Shrewsbury, where Dr. Fincham and his wife (for he was married in 1896) were held in high regard. The following year he returned to London, and devoted much time to his favourite pursuit, in which he obtained high proficiency, carrying off medals at various exhibitions; and both the present King and the late Queen Victoria have honoured him in the acceptance of his work.

But he never deserted medicine, and acted for a time as medical examiner to a physical training school, but he was not content till he started a practice of his own, which he did only two years ago; and it is sad to think that when all seemed so promising he was thus early called away.

To see him in his home at Addison Road, with his wife and little child, and surrounded by pictures, brings home to one the fact that though his married life has been short, it has been exceptionally happy.

He passed through his days of trial, and the operation that gave the only hope, if perchance the disease had not been a malignant growth, with fortitude, and then resigned himself to the Divine will.

Hospital Studies.

By a late H.P.

The Surgery—On Duty—Female End.

NINE o'clock strikes—a fact recorded with sharp emphasis by Sister and followed by an italicised command that there is to be no more talking. Enter the H.P., to be greeted by the indescribable smell whose pedigree in sporting phrase would read Pungency by London Poor out of Soap. Already the surgery is full to overflowing, and the steps outside are congested with many more pressing to be admitted. Over all hangs the nauseous curtain of the November fog that steams in through the open door. The H.P. sets to work at once, for this is likely to be a very full morning, and no time is to be lost. The first hour passes in seeing the old patients, the majority of whom are chlorotic girls and dyspeptic women. Many of them are markedly benefited by the treatment they are receiving; this fact, combined with the stimulation of his breakfast and morning pipe, induce a state of contentment in the breast of the H.P., which is to be severely tested before the morning's work is over. Then he attacks the new cases who are being continually marshalled with mysterious and wholly admirable skill by Sister into orderly and, most wonderful of all, quiet rows of patient females. He is brought into immediate contact with some

of the tragedy and comedy of the lives of the London poor; both find many examples. He learns much of their wonderful symptoms, and their still more wonderful ways of expressing them. He becomes familiar with their "tissocky" and "hackity" coughs, with their various internal pains described as "somethin' terrifying, Doctor," or "crool," or as "little bits of agony;" he becomes expert in translating their "pomoners," and "'orrible informations of the inside," into more conventional medical phraseology. Above all, he learns the full strength of their desire for "cerstificates," and their pathetic trust in a "bottle of strengthenin' medicine, Doctor." Tragedy is certainly here, as when the note records that there are a few crepitations at one apex, and the H.P. knows that as he writes Ol. Morrhuæ ʒj ter, he is witnessing the first step of the weary road that the phthisical patient of the poorer classes must tread before the infirmary ward sees the end of the matter. Yet, in all probability, a year of clean air and generous living would mean complete recovery. Or he explains to another with a crippled and labouring heart that fourteen hours a day at a mangle with many stairs to climb is not a desirable life for one in her condition, only to be met by the baffling question, "What am I to do, Doctor, with six little ones, and my 'usband 'im paralysed these two years?"

Then there are the babies squalling and squirming with various internal pains brought on by the astonishing distance the London mother has travelled from her primeval instincts in the matter of diets suitable for infants; or the others too far gone to make any protest against their habitual mishandling, their illness only shown by their old man faces and wasted limbs; or the others panting with bronchitis, whose mothers explain that they "gave 'im a nice bit of pie to-day, but 'e wouldn't 'ave it; 'e's all for the drink, Doctor, just 'ravishing' for it, and 'is chest is that stuffy you'd 'ardly believe it," (adding triumphantly) "I rubbed 'is little chest well with Rooshan taller," a fact sufficiently obvious to one at least of the H.P.'s senses. Then an elderly Irishwoman brings in a miserable specimen of babyhood, and explains with great volubility that she isn't the mother, but just a friend. The diet is more than usually outrageous, and this is explained to the cheery daughter of Erin. She asks, "Will I tell the mother she is feeding it wrong?" H.P., savagely: "You can tell the mother that she is killing the child." A dangerous gleam of triumph and of approaching battle comes into the woman's eye as she says, "I will that, Doctor, God bless you;" and it seems probable that there will shortly be a cut head case for the H.S. on duty.

Of all the taxes on the H.P.'s patience none is so severe as the garrulous woman, who, in answer to a simple question, pours forth a torrent of words dealing with totally irrelevant matter,—what her neighbour thought of the matter, what her experience in many similar cases taught her to expect, and the rest of it. Very early in such an outburst the H.P.'s hand travels rapidly to a brown card, on which appear the mystic symbols of H. G. c̄ R., and he bundles the woman out, contented but still talking. Then there is the other woman with drink written in every line of her evil face, who answers the question as to her beverages with magnificent promptitude, "Milk and soda and a little weak tea." In the midst of the morning when the work is thickest, and the benches seem as if they would never empty, there is a call to see a "cab case," and the H.P. finds himself called upon to diagnose the cause of a temperature of 103° in a four-wheeler, or he has to exercise all his tact in what he calls "cheesing off" to an infirmary a hopeless chronic who is armed with a note from a practitioner outside.

The time is rapidly nearing 1 o'clock, when the H.P. has explained for the *n*th time, "where *n* is any large number," as the algebra books say, that "whatever we 'as ourselves" is not a suitable diet for a child of ten months, he has written for the last time the prescription H. Gent. c̄ Rheo, and said for the last time "before meals, and don't drink any tea," he has taken notes on the last chlorosis, and finally the benches are empty. With a sigh of relief he rises to seek his well-earned luncheon.

Notes.

MR. C. P. WHITE has been appointed Pathologist and Demonstrator of Pathology to St. Thomas's Hospital. Mr. White has been doing some excellent work at the Yorkshire College, Leeds, and we congratulate him on this well-deserved recognition of his work.

* * *

MR. H. J. HUTCHINS has been awarded the Distinguished Service Medal for his work in South Africa. All Bart.'s men will join in congratulating him on the great honour.

* * *

WITH this number of the Hospital JOURNAL appears the firstfruits of a new term of editorship. We hope to be able to keep up the standard of excellence of our predecessors, and we appeal to old Bart.'s men to assist us by sending communications of anything that is likely to prove of general interest that may arise in their daily experience. Such communications are always of great interest and value to those engaged in hospital work, as they are likely to be written from points of view that are rather

different from those we are accustomed to, and to indicate the sort of experience that we shall have to encounter when we go out into the world away from the familiar scenes of hospital life, where there are always others from whom we can ask advice and guidance.

* * *

We have received several letters calling attention with some acerbity to the unpunctual appearance of the last few numbers of the Journal. The gentlemen have a real grievance, and we can only offer them and the contributors our fullest apologies. It will be our endeavour to get the matter straight as soon as possible, but we must plead for a little time before we can achieve our ideal to publish the Journal on the 15th of the month. We may add that this is only possible if contributors will send in their MSS. approximately on the date promised.

* * *

We offer our sincerest congratulations to the following gentlemen, who have passed the primary Fellowship Examination :—Messrs. Ambler, Bott, Fielding, Ranking, P. Wood.

* * *

The new volume of the Hospital *Reports* will be published very shortly, and will contain, amongst other matter, communications from Dr. Gee, Sir Dyce Duckworth, Mr. D'Arcy Power, Dr. Harry Campbell, and Dr. Thursfield. We strongly advise all those who do not already contribute to the *Reports* to amend their ways as soon as possible. Those who have subscribed for some years possess much really valuable matter, and there are very few investments which give so admirable a return for their money as the yearly subscription to the Hospital *Reports*.

Dinner to Mr. Willett.

On September 30th Mr. Alfred Willett was entertained at dinner at the Imperial Restaurant, and presented with his bust by his old house surgeons. During Mr. Willett's term of office forty-four men have held the post of house surgeon, and of these twenty-nine attended to do honour to their old chief. The bust has been executed by Mr. R. H. Hope Pinker, and is an admirable likeness. After the usual loyal toasts Dr. W. S. A. Griffith, Mr. Willett's first house surgeon, who was in the chair, proposed the health of "Our Guest" in the following words:—"This is an occasion of almost unique character, a sort of family gathering at which we, a somewhat large family of sons, are met to show Mr. Willett, the head of the family, how great is our affection and our esteem for him. It is hardly necessary, therefore, for me to explain why we, his house surgeons, who have been intimately associated with him at various periods during the last twenty-two years, feel such esteem and affection for him; that which we feel cannot be manufactured or artificially raised; it is spontaneous, genuine, and, we believe, mutual, based on our absolute confidence in his judgment and actions. I have the honour of being the eldest son of the family, and I take it as being evidence of Mr. Willett's remarkable foresight and acumen that he selected me for this honour, for he must have foreseen that the necessity would soon arise for the assistance of a specialist in my branch of the profession, inasmuch as his family of house surgeons, which for a time increased by one each year, soon after began to increase in couples, and has continued to do so with the utmost regularity, and, I may say with credit to myself, with safety, every year since. To Mr. Hope Pinker we are indebted for a fine work of art, and for as fine a portrait bust as I remember to have seen, and I am sure that it is your wish that Mr. Hope Pinker should be informed how greatly we admire his handiwork.—Mr. Willett, in the name of your house surgeons may I ask you to accept this bust as a token of our affection for you, and of our admiration for you as a surgeon worthy of St. Bartholomew's Hospital?"

Mr. J. J. Macgregor, house surgeon in 1890, and Mr. Hunt, the last house surgeon working under Mr. Willett, also spoke in support of the toast, which was drunk most enthusiastically with musical honours.

Mr. Willett, who on rising to respond was received with loud and continuous applause, said that in thanking his forty-four old house surgeons for the high compliment they had paid him, he wished particularly to emphasise three points. In the first place he begged to return them his most grateful thanks for their touching gift of his bust; again, he thanked them for the invitation to be their guest that evening; and lastly, he thanked them for the intense pleasure he was experiencing in being surrounded by so many of his old house surgeons, with each one of whom some pleasing recollections rose up in his memory. Mr. Willett next offered a warm tribute of his appreciation of the skill and the earnest labours of the artist, Mr. Hope Pinker, mentioning how this gentleman's bright, genial personality had rendered his (Mr. Willett's) numerous visits to the studio delightful occasions of friendly intercourse. Mr. Willett went on to say how proud he was of his old house surgeons; he felt great pride in recalling the happy relations which ever existed between him and them; he was proud of their loyalty to him, and above all proud of their success in life.

"I do therefore," continued Mr. Willett, "feel a most legitimate pride in mentioning your names in order of succession." Mr. Willett then gave from memory in proper order the names of all his house surgeons as follows:—Dr. Walter Griffith, Mr. Lockwood, Mr. Walter Jessop, Dr. Mason, Mr. Colville, Mr. Rayner, Dr. Rayner Batten, Mr. Fred. Wallis, Mr. Holmes Spicer, Mr. Owen Lankester, Mr. Edward Jessop, Mr. Newbolt, Mr. Walter Spencer, Dr. H. P. Cholmeley, Mr. Harold Davidson, Mr. O. Penrhys Evans, Mr. Francis Napier, Mr. George Heaton, Dr. Ernest Colby, Dr. G. Rose Holden, Dr. Macgregor, Dr. Herbert Powell, Mr. Cozens Bailey, Dr. Cecil Stevens, Dr. Reginald Brown, Dr. Eustace Olive, Mr. Herbert Paterson, Dr. Maidlow, Dr. Sloane, Dr. F. Belben, Mr. Llewellyn Phillips, Dr. Giles, Dr. E. W. Ormerod, Mr. Haines, Mr. Briggs, Mr. Tucker, Mr. Rawling, Mr. M. A. Cholmeley, Mr. Carsberg, Mr. Storrs, Dr. Bull, Mr. Gibbins, Mr. West, Mr. Hunt. "Of these," continued Mr. Willett, "no less than twenty-four are Fellows of the Royal College of Surgeons of England, and one F.R.C.S. (Edinburgh). Four are already on the staff of St. Bartholomew's, ten are or have been on its teaching staff, nine are on the staff of other metropolitan hospitals, whilst twelve are holding or have held appointments as surgeons to provincial hospitals. Then as to honours at our School. During the twenty-two years I have been surgeon six of you have won the 'blue ribbon'—the Lawrence Gold Medal,—and eight the Brackenbury Surgical Prize. I claim to have made out my case, that I have good ground to feel proud of you. I believe you have established a record. And here I wish to express how thoroughly I recognised the responsibility placed upon me in having the nomination of the appointment of my house surgeons. I regarded it as a great trust. I hope I have been just; this much I will say, that looking back I have never had occasion to regret one of my nominations, and were the time to come over again, in not a single instance would I make a change, nor do I feel that I could have done better. Very few are the instances in one's life of which one can say as much. Before sitting down I ask to be allowed to add a few remarks about my Sisters. In them I have again been most fortunate. Sisters President and Pitcairn have held their positions throughout the entire period of my surgeoncy. I have had Pitcairn Ward for twenty-one years,

and you all know the quiet, orderly, thorough manner in which this Sister always devoted her whole energy to her work. I very much regret to announce that after a service of over a quarter of a century she has resigned her appointment, although to me she seemed to show no trace of years or of work telling upon her. With Sister President I have worked almost as long. She is equally with Sister Pitcairn a great favourite with all, and I should repeat almost in identical words my appreciation of her invaluable services to the Hospital. Harley Ward I had during the whole period of my office, and for far the greater part of the time the present Sister has been in charge. She, too, is a devoted and conscientious Sister, with whom it has always been a pleasure to work. For the work which Sister Casualty does and the way she does it I could not find words of too high approbation to express my admiration of the services she renders to St. Bartholomew's; and of the late Sister Coborn, Miss M. Moore, I would say as much. That I should have been so fortunate as to keep practically the same Sisters and the same wards for so many years has been, I consider, an inestimable advantage to me, and I hope to you, gentlemen, as well. Once more I thank you from the bottom of my heart for this distinguished mark of your regard for me personally, and for my past career among you in your work."

Mr. F. C. Wallis in a humorous speech proposed the health of "the Chairman," which Dr. Griffith suitably acknowledged. Between the toasts various gentlemen present entertained the company with songs reminiscent of days gone by. Finally, Mr. Willett proposed the health of the Hon. Secs., Mr. Walter Spencer, Mr. F. C. Wallis, and Mr. Herbert J. Paterson, a toast which, at Mr. Willett's special request, was acknowledged by each of these gentlemen in turn, and thus a most memorable and enjoyable evening was brought to a close.

Dinner of the Cambridge Graduates of St. Bartholomew's Hospital Club.

THE dinner of the above Club was held at Frascati's on Wednesday, November 19th, Mr. Holmes Spicer being in the chair. There was an excellent attendance of members and a good sprinkling of guests, prominent amongst whom were Dr. Garrod, Mr. Bruce Clarke, Dr. Calvert, Dr. Voelcker, Mr. Waring, and Dr. Thursfield. Mr. Holmes Spicer made a most excellent chairman, his several speeches being apt and—most admirable characteristic—brief. The toast of the guests was given to the safe charge of Dr. Norman Moore, who maintained in all respects the standard which he has set up for himself in the difficult art of after-dinner speaking. The present American ambassador, Mr. Choate, once referred to the Master of Trinity as the most remarkable man of his acquaintance, "as he *enjoys* after-dinner speaking." Surely Dr. Norman Moore must be allowed the same distinction, for it is difficult to believe that a man can do anything so supremely well as Dr. Moore speaks after dinner without taking a keen pleasure in the performance. He began with a quotation from Burke and ended with one from Shenstone; he touched lightly on King Stephen and Dr. Johnson; he told an excellent story of his own experience on the Cherwell at Oxford, and all with that apt phraseology and admirable wit which Bart.'s men have learnt to expect as their natural right from him on these and kindred occasions. Dr. Voelcker and Mr. Bruce Clarke replied very happily for the visitors, and after Dr. Fletcher and Dr. Horton-Smith had replied to the toast of their health, given by Dr. Drysdale, the meeting broke up.

The whole entertainment was most excellently arranged, and reflected the greatest credit on Dr. Fletcher and Dr. Horton-Smith, who discharged the no light task of organisers to the Club.

Appointments.

BREWER, A. H., M.R.C.S., L.R.C.P., appointed Anæsthetist to the Lock Hospital, Dean Street.

* * *

MALIM, J. W., M.B., B.C.(Cantab.), appointed House Surgeon to the Royal Mineral Water Hospital, Bath.

* * *

NIALE, E. M., M.B., B.S.(Lond.), appointed Surgeon to the White Star s.s. "Persia."

* * *

WHITE, C. POWELL, M.A., M.D., F.R.C.S., appointed Assistant Pathologist and Demonstrator of Pathology at St. Thomas's Hospital.

New Addresses.

BROCK, JOHN, Port Elizabeth, Cape Colony.

COOKE, JOHN G., Fairholme, Walsall.

HORTON-SMITH, P., 19, Devonshire Street, Portland Place, W., from 15, Upper Brook Street, and 8, Upper Westbourne Terrace, W.

WHITE, C. POWELL, Pathological Laboratory, St. Thomas's Hospital, S.E.

BOOKS AND PERIODICALS RECEIVED.—*Guy's Hospital Gazette, Brooklyn Medical Journal, L'Écho Médical, The Hospital, St. Thomas's Hospital Gazette.*